

REMARKS

An excess claim fee payment letter is submitted herewith for six (6) excess total claims.

Claims 1-26 are all the claims presently pending in the application.

While Applicant believes that all of the claims are patentable over the cited references, to expedite prosecution, claims 1, 8, and 15 have been amended to more particularly define the invention.

Claims 21-26 have been added to claim additional features of the invention. No new matter is added.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

With respect to the prior art rejections, claims 1, 4, 8, 11, 15, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over newly cited Bellwood (U.S. Patent Publication No. 2004/0114040) in view of Weitbruch, et al. (U.S. Patent Publication No. 2004/0165064).

Claims 2, 3, 5, 6, 9, 10, 12, 13, and 16-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bellwood in view of Weitbruch, in further view of Crinon, et al. (U.S. Patent Publication No. 2002/0191846).

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention is directed to an improved method and device for preventing burn-in of a display screen of an image display device.

For example, independent claim 1 exemplarily defines a device for preventing burn-in of a display screen of an image display device, the device including a blurring device for applying a blurring process to a single screen of an input image signal, without shifting an image represented by the input image signal, to obtain a single screen of a blurred image signal, and a contrast inversion device for inverting contrast of a luminance level of the single screen of the blurred image signal to generate a single screen of a burn-in prevention image signal.

Independent claim 8 exemplarily defines a method of preventing burn-in of a display screen of an image display device, the method including A) subjecting an input image signal to blurring, without shifting an image represented by the input image signal, to obtain a blurred image signal, and B) subjecting the blurred image signal to contrast inversion to invert contrast of a luminance level of the blurred image signal to generate a burn-in prevention image signal.

Independent claim 15 exemplarily defines a display apparatus including a display device including a display screen, a contour modification circuit for blurring an input image, without shifting the input image, to obtain a blurred image when the input image includes a still image, a contrast inversion circuit for inverting contrast of a luminance level of the blurred image to obtain a contrast inverted image, and a driver for displaying the contrast inverted image on the display screen when the input image includes a still image.

II. THE PRIOR ART REJECTIONS

In the “Response to Arguments” (see Office Action at page 2), the Examiner states that Applicant’s arguments with respect to claims 1, 8, and 15 have been considered but are moot in view of the new ground(s) of rejection.

As mentioned above, claims 1, 4, 8, 11, 15, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over newly cited Bellwood in view of Weitbruch. Claims 2, 3, 5, 6, 9, 10, 12, 13, and 16-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bellwood in view of Weitbruch, in further view of Crinon.

Applicant respectfully disagrees with the Examiner’s position, for at least the following reasons.

First, Applicant respectfully submits that the Examiner’s understanding of Bellwood is incorrect.

For example, in the Office Action at page 3, the Examiner alleges that Bellwood, page 2, paragraphs 0020-0021 teaches “a blurring device for applying a blurring process...”

However, in order to justify this assertion, the Examiner relies upon the passages in Bellwood, at page 2, paragraphs 0020-0021, which read, according to the Examiner’s understanding, “an image is moved slightly.”

Applicant notes that, Bellwood at paragraph 0020, lines 3-4, states that “The image is slowly shifted up and down”, and at lines 6-7, states that “The image is then slowly shifted right and left.” Moreover, in consideration of Bellwood at paragraph 0021, line 1, it can be seen that “The image is shifted slowly.”

Finally, the Examiner asserted that slightly moving the image is a distortion of the original image, and therefore, that “slightly moving the image is blurring the image.”

Applicant respectfully disagrees.

Contrary to the Examiner's position, Applicant notes that, in general, "moving" an image clearly is different from "blurring" an image. In fact, Bellwood does not mention blurring of the image at all.

Thus, for at least this reason, Applicant submits that this rejection should be withdrawn.

While Applicant believes that all of the claims are patentable over the cited references for at least the reasons set forth above, to expedite prosecution, claims 1, 8, and 15 have been amended to more particularly define the invention.

Applicant notes that each and every limitation of the claims must be taught or suggested by the alleged combination of references, including the specifically recited relationships between the elements of the claim.

For example, independent claim 1 recites a device for preventing burn-in of a display screen of an image display device, the device including:

a blurring device for applying a blurring process to a single screen of an input image signal, without shifting an image represented by the input image signal, to obtain a single screen of a blurred image signal; and

a contrast inversion device for inverting contrast of a luminance level of the single screen of the blurred image signal to generate a single screen of a burn-in prevention image signal (emphasis added).

Independent claims 8 and 15, which are directed to a method and apparatus, respectively, recite somewhat similar features as independent claim 1.

For example, independent claim 8 recites a method of preventing burn-in of a display screen of an image display device, including:

A) subjecting an input image signal to blurring, without shifting an image represented by the input image signal, to obtain a blurred image signal; and

B) subjecting the blurred image signal to contrast inversion to invert contrast of a luminance level of the blurred image signal to generate a burn-in prevention image signal (emphasis added).

Independent claim 15 recites a display apparatus including:

*a display device including a display screen;
a contour modification circuit for blurring an input image, without shifting the input image, to obtain a blurred image when the input image includes a still image;
a contrast inversion circuit for inverting contrast of a luminance level of the blurred image to obtain a contrast inverted image; and
a driver for displaying the contrast inverted image on the display screen when the input image includes a still image* (emphasis added).

Applicant submits that the clarifying amendments to independent claims 1, 8, and 15 clearly show that the claimed invention is different than the alleged combination of references, including Bellwood, because the image in the claimed invention clearly does not move.

Instead, contrary to the teachings of Bellwood, in the claimed invention, the image can be blurred at the fixed position (e.g., “without shifting an image represented by the input image signal”).

Thus, for at least this reason, Applicant respectfully requests that the Examiner reconsider and withdraw this rejection.

Moreover, the Examiner acknowledges, at page 3 of the Office action, that Bellwood does not teach a contrast inversion device. However, the Examiner alleges that Weitbruch teaches a contrast inversion device, and therefore, that a combination of Bellwood with Weitbruch would arrive at claim 1.

Applicant respectfully disagrees with this Examiner's position, for at least the following reasons.

Applicant notes that an important aspect of the claimed invention is to prevent the burn-in (or burnout) of the display. It is noted that Bellwood is directed to a similar object. As mentioned above, in order to achieve this object, Bellwood slowly shifts the image.

In contrast to Bellwood, the claimed invention blurs the image and then inverts the contrast of the blurred image.

Applicant submits that, if the ordinarily skilled artisan were to use Bellwood to prevent the burn-in of the screen, Bellwood would not suggest blurring the image, or for that matter, inverting the blurred image, because slowly shifting the image up and down and/or right and left would be enough to prevent burn-in, according to Bellwood.

Thus, the ordinarily skilled artisan clearly would not have been motivated to combine Bellwood with Weitbruch. That is, inverting the contrast of the image would indeed be unnecessary for Bellwood, based on the teachings of Bellwood.

Thus, there clearly would be no reason for the ordinarily skilled artisan to modify Bellwood based on Weitbruch to provide the same aspects that Bellwood already provides on its own.

In contrast, the present invention discloses that blurring the image is not enough for preventing burn-in of the screen, and therefore, the present invention further includes inverting the contrast after blurring the image in order to prevent burn-in of the screen.

Thus, Applicant respectfully submits that it would not have been obvious to combine Bellwood and Weitbruch, or for that matter, Bellwood, Weitbruch, and Crinon, to arrive at the claimed invention. Moreover, Bellwood, Weitbruch, and Crinon, either

individually or in combination, clearly do not disclose or suggest all of the features of the claimed invention.

For the foregoing reasons, the Examiner is requested to reconsider and withdraw these rejections and to permit claims 1-20 to pass to immediate allowance.

III. NEW CLAIMS

New claims 21-26 are added to provide more varied protection for the present invention, as exemplarily described in the original specification and Figures of the present application.

Applicant submits that claims 21-26 are patentable over the prior art of record for somewhat similar reasons as those set forth above with respect to claims 1-20. Therefore, the Examiner is requested to permit claims 21-26 to pass to immediate allowance.

IV. CONCLUSION

In view of the foregoing, Applicant submits that claims 1-26, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

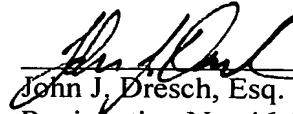
Serial No. 10/816,855
Docket No. US01-03060
(FUJI.052)

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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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